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Study of $\mathrm{W}^{\pm}$–boson production in p–Pb and Pb–Pb collisions at $\sqrt{s_{\mathrm{NN}}} = 5.02$ TeV with ALICE at the LHC

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$\mathrm{W}^{\pm}$ bosons are created in hard scattering processes at the initial stage of heavy-ion collisions and they are insensitive to the presence of the strongly-interacting medium. This makes them clean probes of the initial-state effects in heavy-ion collisions, such as the nuclear modification of the Parton Distribution Functions (nPDFs). Furthermore, their measurement in heavy-ion collisions is a powerful test of the binary scaling of hard processes as well as a reference for hot-matter effects on other probes.

In this contribution, focus will be given to the $\mathrm{W}^{\pm}$ production cross-section measurement in p,ÄìPb collisions at $\sqrt{s_{\mathrm{NN}}} = 5.02$ TeV. In addtion the status of the ongoing $\mathrm{W}^{\pm}$ analyses in Pb,ÄìPb collisions at the same center of mass energy will be discussed.

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